

Optimal extensions of operators on Banach function spaces

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Abstract

Given an operator $T : X \rightarrow E$, where X is a Banach function space and E is a Banach space, we provide several optimal extension results for T through spaces of integrable functions with respect to a vector measure ν_T canonically associated to T . Depending on the continuity property of the operator which we want to preserve, the optimal domain is $L^1(\nu_T)$, $L_w^1(\nu_T)$ or the Fatou completion of $L^1(\nu_T)$.